

# **Room Based Multiplayer Anti Thambola Using Cloud Computing**

**Dissertation by P Shrinivas Kamath (2019HT12208)**

**Dissertation work carried out at  
GE digital, Whitefield Bangalore.**

**Birla Institute Of Technology & Science Pilani.**

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## **1. Broad Area Of Work:**

**Cloud computing and services are becoming the backbone of many large scale applications which supports scalability and maintenance. Online gaming industries are now predominantly use room based approach to handle group of multiple users. Broad range of this project includes,**

- 1. Design and development of event based room service to handle multiple players using cloud computing.**
- 2. Design and development of web application/mobile application using latest tech stack which consumes the event based room service which is hosted in cloud.**
- 3. Implement Continuous integration and Continuous deployment which should automatically build and deploy in cloud.**

## **2. Background:**

**Nowadays room based games are gaining popularity day by day which handles millions of rooms and millions of users in cloud. Great example is 'Ludo' and 'Among us' which gained huge popularity during lockdown. Hence the idea here is to design and implement end to end room based game using cloud based services and host in any of the free cloud services available. Also manage the build and deployment through CICD pipeline which manages end to end process of deployment of app when changes are checked in to a version control tool. The game I have chosen is an unique one which I have imagined called "Anti Thambola" which basically means "reverse thambola" or "reverse housie housie" which has own set of rules and regulation and players can form a group and start playing turn by turn.**

## **3. Objective:**

**The objective of my project are as follows,**

- 1. Understand cloud computing service and consume.**
- 2. Learn to design and develop full stack application development using latest tech stack. (Both Service layer and UI layer)**
- 3. Learn to deploy and host application in cloud.**
- 4. Understand CICD and automate build and deployment of the application by creating pipeline in cloud.**

## **4. Scope of work:**

**Scope of the project would be to design and develop end to end application in latest tech stack using cloud services and deploy in cloud. Integrate a CICD pipeline which automates build and deployment.**

## 5. Plan of work:

Phases	Completion Date	Work to be done
Dissertation outline	21-Jan-21	Literature Review and prepare Dissertation Outline
Design and development	01-Apr-21	Design & Development Activity
Testing	07-Apr-21	Software Testing, User Evaluation & Conclusion
Review	20-Apr-21	Submit dissertation to Supervisor & Additional Examiner for review and feedback
Submission	23-Apr-21	Final Review and submission of dissertation

## 6. Literature Reference:

The following are referred journals from the preliminary literature review.

1. Ahead in the Cloud: Best Practices for Navigating the Future of Enterprise IT by by Stephen Orban
2. Architecting the Cloud: Design Decisions for Cloud Computing Service Models by by Michael J. Kavis.
3. Node framework <https://github.com/colyseus/colyseus>
4. Heroku cloud platform <https://www.heroku.com/>

## 7. Particulars of Supervisor and Examiner:

	Supervisor	Additional Examiner
Name	Mahesh Bollar BR	Guruprasad
Qualification	BE in CSE	Mtech in Software systems
Designation	Staf. Software engineer	staf. Software architect
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## 8. Remarks of Supervisor:

The problem statement looks like covers all the layers of application development and in latest tech stack and should give good hands on experience in full stack web development. Also hosting and deployment of the application cloud along with proper CICD should give end to end process of lifecycle of the application development and deployment. I am sure that once he is able to carryout this project as well, he should be able handle end to end development and deployment of critical applications in industry. I approved the above project as supervisor.